

Medicine vol 10.

RELIEF FROM

ACCIDENTAL DEATH:

O R,

SUMMARY INSTRUCTIONS

For the general Institution, proposed in the Year 1773,

By ALEXANDER JOHNSON, M. D. *h*

TO INTRODUCE AND ESTABLISH,

In his MAJESTY'S British Dominions,

A SUCCESSFUL PRACTICE

F O R

Recovering PERSONS who meet with Accidents

PRODUCING SUDDENLY

AN APPEARANCE OF DEATH,

And preventing their being buried alive.

Re-published at the Expence of the Author in 1785.

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RELIEF FROM

ACCIDENTAL DEATH

O. R.

BY MR. J. T. JOHNSON

OF THE CITY OF NEW YORK

BY ALEXANDER JOHNSON, M.D.

OF THE CITY OF NEW YORK

OF THE CITY OF NEW YORK

A SUGGESTION



OF THE CITY OF NEW YORK

OF THE CITY OF NEW YORK

AN ATTEMPT

TO PREVENT

THE DEATH OF THE AUTHOR

OF THE CITY OF NEW YORK

OF THE CITY OF NEW YORK

OBSERVATION.

THE assiduous endeavours made to spread the knowledge of this practice, so generally useful to states and mankind, has produced its reception, and led to the forming of institutions for dispensing its benefits to the unfortunate, in the following countries and places: from the city of *Amsterdam*, in *Holland*, where it took its origin, and soon became known throughout the Republic and the *Netherlands*; it found its way southward to *Italy*, and was received by the boards of health at *Venice*, *Milan*, and *Padua*. The King of *Naples* ordered it to be connected with the purposes of the Great Infirmary in his capital: his majesty's example was followed in the cities of *Florence*, *Leghorn*, and *Genoa*. At the same time it was encouraged by the regency at *Hamburgh*, from whence it got through *Germany*. The late Empress Queen of *Hungary* gave it protection, and directed it to be made known in her extensive dominions; and the celebrated physicians of his present Imperial Majesty, are recommending the observance of its rules. While first gaining ground from *Holland*, it was introduced into *England*, where it made good progress, and brought forth several institutions, that in *London* being the principal, and one of the most prosperous in *Europe*. The practice and its mode of treatment reached *Scotland*, and both were ordered to be published by the board of police.---*Ireland* was not tardy in giving proofs of her acquaintance with the subject. As early did it reach *France*, where the endeavours and success of the institution at *Paris* has made it to be accepted in all

the provinces of that kingdom, not less than an hundred establishments having been founded there, and shewn it the way, on one hand to *Flanders*, and on the other to *Switzerland*. It has likewise penetrated into *Spain* and *Portugal*, as the cases transmitted from thence do prove. In the northern regions, the Empress of *Russia* has ordered the practice generally to be adopted: and the kingdoms of *Sweden* and *Denmark* have received it. To *Europe* alone, the attempt of making the method of treatment known, has not been confined; opportunity has from time to time been taken to make the subject known and understood in the *English* colonies; and, since the peace with *America*, a person of science and reputation, well informed in medical matters, is gone to establish the practice in that great continent. In another direction, some persons, well convinced of the universal utility of the treatment, have taken the instructions with them to the *East Indies*, and intend to translate and disseminate them in that vast range of country.

The aim of the present endeavour, is to establish the belief, that this practice is capable of affording greater benefits, than have hitherto been reaped from it; and a hope being entertained, that belief will be inculcated by reading these instructions, they are, for the sake of general dispersion, given *gratis* to all those who like to forward the useful intention; especially such who have the convenience of sending them abroad, and who are thus invited to share the satisfaction of teaching mankind the art of saving numberless individuals, lost without that aid, and remaining victims to the many accidents that heretofore have swept away a considerable part of every community on the face of the globe.

INTRODUC-



INTRODUCTION.

THE first humane attempts to recover persons that were but apparently dead, having been made upon drowned subjects, and attended with success; the treatment that produced so happy an effect was published; and as it came to be believed, from experience, that men seemingly dead from drowning could be brought to life again, much good ensued from promoting the practice. But although it soon became evident, that other accidents which produce the same appearance, such as hanging, strangling, suffocating, were also remediable by a treatment nearly similar; and the mode of that treatment being likewise made known, in addition to that of the drowned subjects; it did not follow, as was expected, that the latter discovery made as much impression as the former; and thence the increase of those benefits has not been sufficiently obtained; perhaps because the latter accidents happening within doors, do not so frequently come

to the knowledge of the public. Nevertheless, as experience has repeatedly proved, that relief can be administred in such cases, it is highly requisite to inform all men, and exhort them to remember, that of those accidents of the latter description, as many subjects may be recalled to life, as of the former; nay more, those casualties taken together being more numerous. And the better to enable persons humanely disposed to display their compassionate feelings towards their distressed fellow-creatures, the necessary instructions are here again published in a manner distinctly applicable to the different occurrences.

In the occasional use of the following directions, now extended to a greater variety of casualties and cases, it is recommended, to choose and put in practice, such only as suit the circumstances of situation and accommodation on or near the spot where the accident happens. Many recoveries having been obtained in the most inconvenient situations, the hope of success cannot but encourage those who meet with opportunities of rendering those essential services to individuals and to the community, to exert themselves, and excite others by their example, to merit the commendation of all humane and generous minded men.

Those who have compassionate feelings for the misfortunes of their fellow-creatures, will more readily be induced to attempt the rendering of such signal good offices, when they are informed that incontestible facts prove it to be in the power of every one to give that aid, which, in the moment of distress, may tend to rescue a life, that without their assistance would be lost. The effectual service is to be rendered at the instant, by the person who first discovers the unfortunate sufferer,

sufferer, for he can more successfully exert himself in an immediate attempt for relief, than at hazard to run in quest of some person supposed to be possessed of more ability than himself. He might lose in the search that only moment in which he could be fortunate enough to kindle up to a blaze, the spark of life then yet latent, as he may probably, by the immediate use of gentle means, interrupt the state of rest that kills the body; and endeavour to keep fluid the blood that congeals in the vessels during the suspension of breath. The great probability of being blessed with success, renders the attempt of such humane endeavours, a duty owing by every individual to another in particular, and to society at large.---Those therefore, who neglect or decline giving such aid, will not only be considered deficient in an essential point of humanity, but in some measure as accessory to the patient's death, by allowing the last spark of his life to extinguish: a reproach which no man would, upon the least reflection, willingly allow to be laid to his charge; even under the prejudice that none but *medical men* can administer relief in such critical situations, as it is a sad apology for the loss of a life, to say that the *medical assistant* came too late.

After this serious exhortation to individuals for their immediate assistance to save fleeting lives; an earnest representation may with equal propriety be made to certain collective bodies, to induce them to grant an aid of the most efficacious kind, that hitherto has been wanting to this beneficent institution. Parish work-houses are by their nature receptacles of relief for sufferers: they are in general conveniently disposed, and commonly provided with useful hands and materials. When any accident of the kind, hereafter described, happens

out of doors, in or near a town that has a parish work-house, every person on the spot will be ready to make application to it for the reception of the casual sufferer; and as it may happen, from a want of power in the keeper, that an absolute refusal of admission be given; it is hoped, and ardently wished, that those houses, by concurrent resolutions, will be declared open for the immediate and constant reception of such unfortunate objects, in order to let the country around feel the salutary effects of this beneficial practice.

A measure so humane will reflect honour upon the directors who bring it to bear: and if they, or any other set of men, united in habits of friendship, would go a step farther, and form themselves into a small society for spreading the knowledge of this discovery, and encouraging the practice set forth in these instructions, they would render a most essential service to the community, without engaging into much expence; there being no doubt of their finding, among the wealthy and charitable in the parish, contributions sufficient to purchase the few implements requisite for the particular operations, and somewhat more to distribute by way of recompense among the useful assistants.

Experience shews that encouragement of this kind is necessary: for although the feelings of the human heart are naturally compassionate towards persons in distress, and that thence a propensity arises to give them aid when in danger; yet accidental considerations often counteract those feelings, and prevent the administration of the aid so immediately wanted in critical situations; but the thought of a reward to be got for an exertion, removes considerations and apprehensions, and brings forth the full effect of what is required. Rewards of
this

this kind need not be great in the country; a trifle given directly, upon the performance of the service, proves acceptable and sufficient. In *London* indeed they are more amply distributed; but expences run there upon a larger scale, and contributions being no more than equal to the demands, the fund cannot be thought to answer beyond the limits of the bills of mortality. The surrounding counties therefore have nothing to expect from it; and consequently every market town, or at least each county town, should have its society to provide some fund, though small, for implements, and to recompense occasional good offices.

A few gentlemen in *Holland*, at their own expence, laid the foundation of those humane societies, which, from their extensive and salutary effects, have spread over a great part of *Europe*: why should not an example so generous be imitated by the liberal people that inhabit the different parts of this kingdom; by those whom providence blesses with affluence? Every community, great or small, might contrive to find the means to rescue from the grave a number of individuals, who, from the various accidents to which life is exposed, fall victims to premature death. No difficulty remains to establish the practice any where; it is now offered in instructions so plain, and unconnected with medical matter, as to be intelligible to the meanest capacity, and practicable by any person whatever.

GENERAL

G E N E R A L I N S T R U C T I O N S

For the Practice of recovering Persons who
appear suddenly to die, from various
Accidents and Causes.

I.

D R O W N I N G.

AS soon as the drowned body is found, it must carefully be conveyed, extended upon a hand-barrow, a ladder, or some long board, to a barn, a shed, or other place under cover, where no house is near enough for its reception. It must there be laid out upon a table, a broad board, or a bench, in a sloping position, the head higher than the feet; it is then to be stripped, laid in a blanket, or horse-cloth, and carefully examined, to see whether any parts be hurt; as such parts that have received injury must be spared, and the treatment in regard to them be conducted with tenderness and caution.

The bodies of drowned persons, generally found wet, cold, and stiff, must immediately be well dried, placed in a temperate air, and rubbed with dry and warm flannels, with other cloths, or a flesh-brush. If dry rubbing does not soon prove efficacious, then some spirits are to be sprinkled upon the rubbers; the spirits thus used are *volatile spirit of sal ammoniac*, hartshorn, or eau-de-luce, mixed with brandy, rum, or malt spirits. The parts to be rubbed with steadiness, are the back-bone,

bone, the sides, belly and breast, the palms of the hands, and soles of the feet; other parts to be chafed with the above-named spirits, are the temples, ears, and neck. These spirits are not to be applied in profusion.

The mouth and nose of drowned persons are often filled with mud or froth, that must be cleared away with a goose feather, or by repeated injections of some luke-warm water, tea, or aromatic infusion; the body being laid upon its side, that the liquid may easily run out: there is no need to wrench the jaws asunder with violence when they seem close fixed, as the lips and cheeks offer room enough for introducing the fluid.

If a small degree of heat be obtained from rubbing alone, a recovery becomes very promising, and the body ought then to be laid in a bed (where it can be had) in a blanket, between two healthy persons, undressed, who are to continue rubbing, and gently agitating it, to encrease the heat to a natural state.---But if the first degree of heat be not produced from diligent rubbing, then dry heat is to be added, in bed if possible, by stone bottles filled with hot water, and wrapped up in flannel; heated tiles or bricks, so wrapped up, but used with precaution; also hot sand in bags, laid near, but not to touch, the sides, the hands, and feet; a number of cloths, alternately heated, put especially about the head, the neck, and the coldest parts of the body, and renewed as they cool, will likewise prove of service.

The introduction of air into the body is practised two different ways, and tends either to blow up the lungs to renew circulation, or to swell the intestines to produce motion. The attempt to fill the lungs is made by the nose, and requires a particularly

ticularly constructed pipe, (page 23, fig. 1.) one end of which fits the nostrils, and the other receives the nozel of a small clean bellows, that are to be worked cautiously and slowly, while the mouth is kept shut, and the throat is gently pressed back, to make the air take its right course down the wind-pipe, and not into that which leads to the stomach. When this operation is well performed it may prove of good use, but it is difficult, and without the pipe it is scarce practicable, for the bellows do not well fit the nose, and when applied to it one nostril must be kept shut. Farther, the trial is not to be made with the breath of the operator, which is become noxious and unfit to enter any lungs again. The other practice is done by the fundament, where the bellows can be more easily applied; yet precaution is to be used, not to injure the part, as will be seen hereafter, fig. 2. In both operations, while the bellows play, the volatile spirit, or eau-de-luce above described, put into a warm tea-cup to make it rise, is to be held under the valve.

The more stimulant vapour to be blown up, when common air does not suffice, is the smoke of tobacco for strong bodies, or of some aromatic herb, as sage, mint, or rosemary, for the weaker sort; it is done by bellows, called fumigators: but where these are not at hand, it can be done with a common smoking pipe filled and lighted, of which the bowl is put into a common clyster bag; or by two pipes inverted on each other, and held by a piece of strong paper, or joined by a kind of tinder barrel. To convey the smoke cautiously, a wooden clyster-pipe, or a leather sheath of which the point was cut off, have been first inserted, and into them was then put the small end of the pipe,
or

or the nozzle of the bellows, to avoid hurting the part into which they were introduced. (*See the drawing page 23, fig. 3, 4.*)

While air, vapour, or smoke, is introducing into the body, the belly must be gently moved and pressed upward with the hand; and the operation must be repeated and continued for a length of time, until signs of life appear. When those are obtained, attention is then required, to go on slowly, and to give heat and motion by degrees; but not to overpower, by hasty endeavours, a body then in so weak a condition as to be hurt by every inconsiderate attempt. It should at that time be kept in gentle agitation, by means of the blanket upon which it lies. The nostrils and throat are to be tickled with a crow feather; and powders or salts that provoke sneezing may then be used. The temples, ears, and neck, are to be chafed with the volatile spirits above-mentioned, mixed with brandy or common spirits; some *tincture of castor*, or peppermint water, or other cordial, ought then to be put into the mouth, by slow degrees, a tea-spoonful at a time, and allowed to go down before another be given.

The signs of returning life generally obtained, are as follows: small contractions of the muscles of the face, the eye-lids, or other parts of the body; a slight red colour appearing on the lips and cheeks; some faint and irregular pulsation in the heart and blood vessels; a kinder feel of the flesh; and a little glow of warmth spreading over the parts. Those are followed by greater degrees of the same symptoms, by some spasms, especially in the throat, which are succeeded by a visible distressing anxiety; a puking and purging, a groaning, and a violent head ache, of which they complain as soon as they recover speech.

No

No time can be limited for the continuance of the necessary treatment ; it must be persevered in, without discouragement, till life be recovered ; or till it plainly appear, from a very long train of fruitless endeavours, that no kind of change is obtained.---The space of six hours, or more, has assiduously been employed to obtain the first signs of life, which have been followed by a happy recovery, that has largely rewarded the trouble, and afforded the unspeakable satisfaction of having rescued from the grave, subjects valuable to their families and friends, or to the community.

The signs of death, called certain, are nevertheless so uncertain, where no destruction of parts is found, that none can safely be described here ; lest from prejudiced belief, they should tend to prevent trials, or relax the ardour of operators, and offer an excuse for allowing a recoverable patient to die.

The conduct to be held with newly recovered persons, is to keep them quiet ; moderately warm ; to give them sage and balm tea, and when they incline to sleep, to make them drink wine whey with some drops of laudanum, to allay the irritation raised throughout the body.---As soon as they can take food, then to strengthen them with nourishing things, such as eggs mulled with beer or wine and spices, and toasted bread without butter. All things that give vigour, are to be thought of and given in moderation ; and all that weaken and disgust, should be avoided.

The most dangerous and irremediable consequences of doing what is wrong in critical situations, renders it essentially necessary to warn accidental operators against several practices introduced by prejudice, or followed from a want of knowledge

ledge of the nature of the subject. A body in which life is suspended, is in a thorough state of weakness, and whatever is attempted towards a recovery must be gentle in proportion, for all rough and forcible means will encrease the degree of weakness, by destroying totally that latent quality with the loss of which all hope of success vanishes.

An opinion generally prevalent, that drowned bodies contain a quantity of water in the stomach and lungs, is from facts erroneous: a body does not receive water inwardly during submerſion; if it did, it would in time be specifically heavier; but the contrary is proved to be its ſtate after lying ſome days under water, for it then becomes buoyant, and floats. As to the lungs, they contain only a little froth which cannot be extracted, but will become fluid and evaporate as circulation comes to be freely reſtored. What may be in the ſtomach need not be forced out; and therefore reſcourſe ſhould not be had to the cruel attempt of rolling the body on a caſk, of holding or hanging it up by the feet, or otherwiſe ſtraining and bruizing it. Such uſage prevents recovery, brings on diſcharges of blood, and haſtens death.

GENERAL RULES *for all* CASES.

RUBBING, called friction, muſt be conſidered as a moſt neceſſary and moſt efficacious mean of recovery; it makes the ſmaller parts gently and alternately preſs upon each other, and by repeatedly bringing them into motion, regenerates a moderate degree of heat, requiſite to the renewal of life. It is to be done with attention and conſtancy, not haſtily or in a rough manner, or with things that hurt the ſkin, as very coarſe cloths, dry ſalt, nettles,

nettles, &c. because in that manner it suddenly excites so much heat from irritation, as to overpower the faint remaining principle of life, and destroy the elasticity or springy quality in the smallest parts, the destruction of which leaves not the least prospect of benefit to be reaped from other attempts. The degree of application in all operations, must be suited to the state of weakness of the body, and be slowly augmented, as it takes effect, otherwise it will prove hurtful.

It is known in hotter climates, that rubbing, pressing, and as it were kneading the parts affected with numbness and pain, produces a free circulation, gives fresh vigour, and removes the ailment.

As the success expected from a mild treatment, depends upon the degree of springiness and irritability still remaining in the delicate constituent parts of the body; attention must be had, not to use means of a relaxing kind, such as baths, either warm or of vapour; the application of warm water in bladders; the immersion into brewer's grains, or other warm and moist applications; all which keep the body in a state of inaction, and destroy elasticity and irritability upon which motion depends.

As to bleeding, a serious caution must be given to avoid it: the body under the circumstances of any of the accidents here enumerated, is in a state fully as weak as in a swoon, from which it cannot be recovered by farther weakning, as by bleeding and other evacuants, that lower the feelings and benumb those powers that should be roused, and are collectively to act as the remaining agents then still in nature's store to reproduce motion. Evacuant means are nevertheless often, as hastily as improperly used, from the want of a moment's thought to recollect others more suitable to the
state

state of the distressed patient. If those persons know that the principle of life is in a great measure in the blood, and actuated with it; they cannot be led to diminish the quantity, while they are to aim at availing themselves of the energy of the whole.---If they would consider the mistaken notion, that blood stagnated in the veins, can sooner be made fluid, by drawing off that part which happens still or first to be liquid; they would not resolve to bleed, and empty the vessels, at the risk of their collapsing.---And if they would recollect the contrary and hurtful effects of bandages and ligatures (often upon arteries and veins of the neck) where circulation is to be produced; and of the obstruction they offer to the performance of the necessary operations here prescribed; they would have nothing rational to induce them to venture upon bleeding: but, on the contrary, they would be convinced that, where it has been performed in the beginning of a treatment, those subjects have been reduced to such a degree of weakness, that the prospect of a recovery has vanished: and that when done, even without the immediate appearance of bad effect, upon subjects in some measure recalled to life, and from the mistaken indication of a hard and irregular pulse, proceeding from froth in the lungs, and a general irritation raised in the body, for which bleeding is not a proper remedy; it did then still so considerably lower them, as to make their recovery very tedious, if not doubtful: and farther, that where it has not directly shewn that bad effect, which would have proved irremediable, it then offered but single instances of momentary strength superior to the drawback made upon it, and hazardously ventured at a most critical time, when the aim might safely have been attained by a mild opiate.

Emetics.

Emetics are as improper as bleeding; for if they be got down by art, before reanimation takes place, they do not operate; and if given afterwards, they produce faintness and sickness, which weaken the motion of the heart and lungs, and consequently backen recovery. And farther, while there is no call for any thing stimulant to empty the stomach, it would be cruel to add distress to the state of uneasiness discovered at the moment when life returns.

Vinegar and other sour things, but too commonly used, have an effect contrary to what is expected from them; they harden the parts to insensibility, and augment the disposition in bodies at dead rest to congeal the blood, while those called *alkalies* (of the *spirit of sal ammoniac* and *pearl-ash* kind) have a contrary and very salutary effect.

II.

HANGING *and* STRANGLING.

THESE differ from drowning only in two circumstances; the first is, that the body is not found wet, or often chilled; and the second, that it is generally met with before it is quite stiff. The treatment, therefore, can only differ in those two respects, the cause of suspension of life being the same, namely, a stoppage of breath, and consequent suppression of circulation.

When such subjects have been found before a length of rest has congealed the blood, made the body stiff, and deprived it of all feeling; success has attended the use of the means already pointed out; and they are therefore recommended to be followed, with the precaution of not letting the patients lie long at rest in any posture.

III. SUF-

III.

SUFFOCATING *and* STIFLING.

THES E accidents, somewhat of a different nature from those above-mentioned, proceed commonly from breathing noxious vapours, stagnated and foul air, unfit for respiration, and that stop the play of the lungs. The same effect arises from sulphurous exhalations, the fumes of arsenic charcoal, and bituminous fuel. From air pent up in vaults and cellars, wells, and other places under ground; especially from those where dead bodies are deposited.

Such casualties have been treated like the former, and always without artificial heat, when the body was not chilled. And in addition to the means already set forth, after the first symptoms of life were discovered, and recovery came on slowly, it has proved efficient to plunge the body repeatedly into cold water, or else to throw cold water upon it in small quantities at a time, but by assiduous repetition for a length of time, in the sloping position above described, as an erect posture would be dangerous, the lifeless parts being either restrained or depressing and hurting each other.

Should any one think that blistering and cupping, as stimulants, might be of use in cases like these; he must be reminded, that those means do not operate while the actions of life are suspended; and be informed, that when motion is in a degree recovered, they will not produce the effect of those practices that are here recommended.

Clysters have the deceptive quality of stimulating, yet they cannot effect that to a great degree; for they do not go far enough up into the intestines:
but

but if they did, they still would act as evacuants, which are deemed improper in all violent apparent deaths : besides they, like the former, produce no effect, 'till the return of life, and then would disagreeably impede other essential operations.

IV.

The EFFECT of EXCESSIVE COLD.

WHEN the whole body is seized with intense cold, or all over frozen, it is seldom successfully treated; but when it is only partially so, or locally, then the treatment that affords a cure, is the application of the coldest water, of snow, or of pounded ice, to the affected part, repeatedly, till a glow be obtained, after which the patient should be allowed quietly to recover. Elasticity can thus be restored, and heat produced gradually, while the raising of a greater degree (of heat) by other means, would destroy the principle of life, and bring on a state of mortification : experience shews that frost bitten limbs are lost when suddenly exposed to heat.

V.

STROKES of LIGHTNING.

THESE strokes are generally followed by absolute death, leaving the body in a wholly relaxed state. When they happen to be less violent, or only partially affecting, leaving cause to think, that life is but suspended, then some of the above stimulating means used in a free circulation of air, may prove efficacious ; especially cold water thrown upon the body, as prescribed for suffocation.

VI. CASUALTIES.

VI.

CASUALTIES *proceeding from* INTERNAL CAUSES; *such as*

APOPLEXIES, SWOONINGS, HYSTERICK FITS AND CHOAKING, EFFECTS OF VIOLENT PASSIONS, — OF SURFEITS, — OF COLD LIQUOR IN HEATS.	LETHARGIES, CONVULSIONS,
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ALL those accidents are, without loss of time, to be treated with rubbing and stimulating means, and in a temperate, but not hot air. The volatile spirits and salts are here essentially requisite; and of the cordials recommended, the *tincture of castor* will be found most efficacious.

SURFEITS are relieved by emetics; the easiest and speediest in operating, is made with five or six grains of *tartar emetic*, dissolved in half a pint of warm soft water, throwing away the settlement, and taking the clear water by a tea-cup full at a time, 'till it operates sufficiently. Active clysters are also of use in these cases. After the stomach is sufficiently cleared, the reviving means prescribed for recoveries, will become effectual.

The accidents happening within doors, can be more easily and conveniently treated; and other means, not applicable without doors, may be tried; such as *electricity*, and the introduction of *dephlogisticated air*, and application of other late discoveries, of which nothing more need be said, in general instructions like these. But in all treatment of accidents that happen in a close room, the patient must be moved into a pure and cool air, the application of heat being then improper; yet

yet care must be had not to leave the body to become thoroughly cold, as that state would be as hurtful as an over degree of heat.

To treat children expiring in *convulsive fits*, in *swoonings*, and upon discovery of their being *overlaid*, gentle and constant rubbing, moving about in a blanket, chafing the temples with spirits, holding volatile salts to the nose, and giving a few drops of hartshorn spirits in water, prove often sufficient to recover them. Such trials should always be made, as many can be brought back from those states of apparent death.

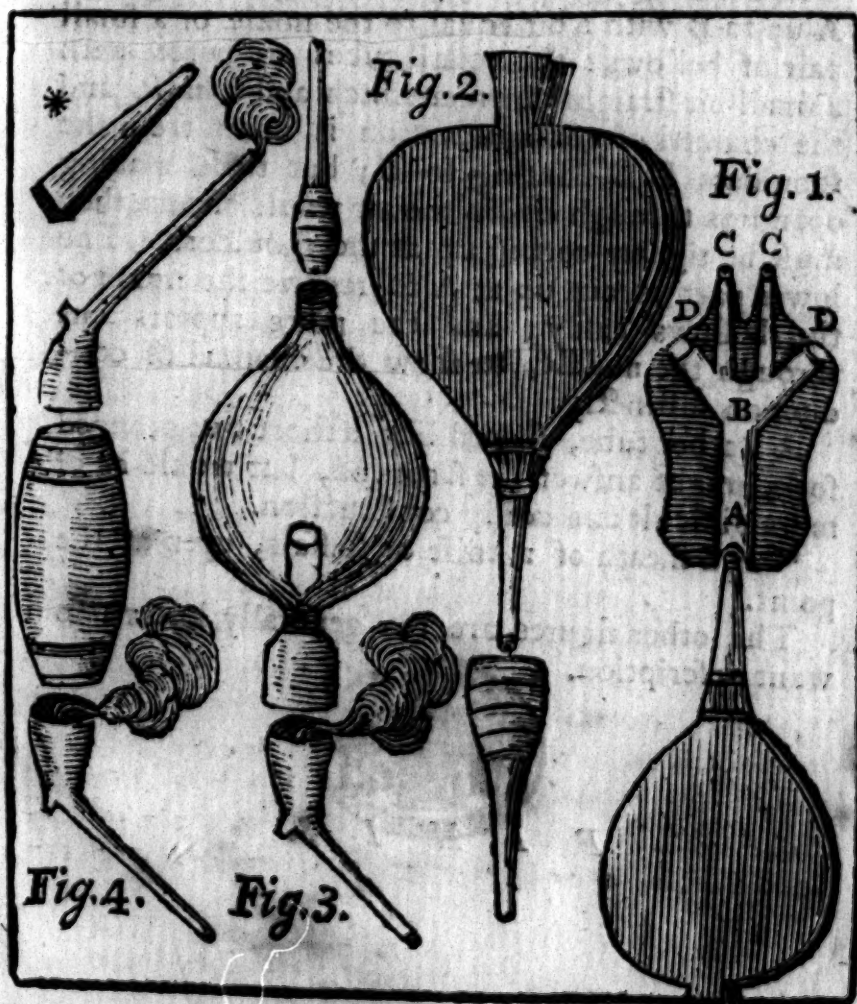
Where somewhat mildly stimulant is wanted for tender skins, the spirit of hartshorn, or the volatile spirit of *sal ammoniac*, mixed with some fine olive oil, makes a sopy ointment remarkably efficient, not only for rubbing, but for application to sore places.

A proper attention to these plain rules, especially to that of not allowing the patient to remain in a state of rest, which makes all tardy attempts become useless, will in all probability save a number of lives that are in danger of being lost without aid; and will likewise determine doubtful situations in families, when bedridden patients appear to die. Trials should be made upon all persons when they expire, to determine whether any life be left in them: the nurses, or other attendants, should immediately use some of the above directed means, and continue them for some time; by such prudent precautions they would no more be liable to the reproach of having anticipated the period of death, by drawing away the pillows from under the head, or laying out the body, while a spark of life remained in it.---A farther cause of great anxiety and apprehension would also be removed

moved by such precautions, that of confining persons to a coffin, and committing them to a grave before they be most *undoubtedly* dead.

These instructions being intended for the use of persons who have not studied the subject, and may be unacquainted with physical matters; are composed in the plainest language possible, to convey a clear meaning of what is necessary to be known, either to be done or to be avoided, and without embarrassment from terms of art.

IMPLEMENTS FOR USE.



DESCRIPTION of the IMPLEMENTS.

Fig. 1. **T**HE pipe to convey air through the nose, is a piece of tough wood, about five inches long, two and a half broad, and one and a quarter thick, of the form here delineated: convex on the upper side, and scooped out of the under, to fit the mouth and chin. The short tubes for the nostrils are carefully shaped round. The conduit for the air, is made by boring from A up to B with a bit equal to the nozzle of a small pair of bellows: the nostril tubes are bored with a small bit straight down one inch and a half; and the channel of communication is bored from the shoulders D D slanting to B; but these making openings through which the air would escape, they must be tightly corked up at the shoulders. The lower part is cut up at A to receive the nozzle of the bellows easily; and the piece appears cut through the middle, to shew the channel of conduction distinctly.

A leather tube, shaped like a short two pronged fork, might answer the same end, but would be of more difficult and costly construction.

* Is a sheath of a knife or scissors, open at the point.

The other figures are too generally known to want description.



